



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
State Revolving Fund Loan Program
L & C Tower, 8th Floor
401 Church Street
Nashville, TN 37243

FINDING OF NO SIGNIFICANT IMPACT
Approval of Facilities Plan
Ocoee UD (Polk and Bradley Counties), Tennessee
Loan No. DWA 2009-083

June 12, 2009

The National Environmental Policy Act requires federally designated agencies to determine whether a proposed major agency action will significantly affect the environment. One such major action, defined by the Safe Drinking Water Act (SDWA), is the approval of a facilities plan prepared pursuant to EPA 816-R-97-005, Final Guidelines. In making this determination, the State Revolving Fund Loan Program assumes that all facilities and actions recommended by the plan will be implemented. The State's analysis concludes that implementing the plan will not significantly affect the environment; accordingly, the State Revolving Fund Loan Program is issuing this Finding of No Significant Impact (FNSI) for public review.

The Ocoee Utility District (OUD) has completed the facilities plan entitled "Polk County Water Line Extensions" dated March 2009, and the facilities plan amendment entitled "Contract 1 – Polk County Water Line Extensions and Contract 2 – North Water Line Extension, Amendment 1" dated May 2009. The proposed loan consists of two contracts: Polk County Water Line Extensions and North Water Line Extension. The Polk County Water Line Extensions contract consists of the extension of 6-inch diameter water lines in the southeastern and eastern regions of the OUD's distribution system and includes: 1) connecting to the existing 6-inch water line on Hwy 411 at Old Fort/Boanerges Church Road and extending southwest approximately 4,200 feet to the existing water line on Ladd Springs Road, 2) connecting to the existing 6-inch water line on Ladd Springs and extending south approximately 1.4 miles along Old Fort/Boanerges Church Road to the existing water line on Browder Road, 3) connecting to the existing 8-inch water line on Browder Road and extending south approximately 4,200 feet along Old Fort/Boanerges Church Road, 4) connecting to the existing 6-inch water line on Davis Lane and extending southeast approximately 2,100 feet along Killian Road to the proposed water line on Old Fort/Boanerges Church Road, 5) connecting to a 6-inch water line on Old Federal Road at Ed Kirksley Drive and extending east along Ed Kirksley Drive approximately 1,600 feet, 6) connecting to an existing 8-inch water line on Ball Play/Horns Creek Road at Ladd Springs Road and extending northwest along Ladd Springs approximately 1.1 miles, and 7) connecting to a 4-inch water line on Reynolds Road at Hildabrand Road and extending east approximately 2,600 feet. The North Water Line Extension contract consists of the extension of a 12-inch diameter water line in the northern region of the OUD's distribution system and includes connecting to the existing 8-inch water line on Union Grove Road and extending north approximately 10,000 linear feet (LF) to Upper River Road then extending northwest approximately 19,000 LF to the

intersection of Upper River Road and Bolen drive on the western edge of the OUD's Service Area. The total estimated project cost is \$2,566,820. A Drinking Water State Revolving Fund (DWSRF) loan and American Recovery and Reinvestment Act of 2009 (ARRA) funds in the amount of \$1,750,000 has been requested for this project. A Community Development Block Grant (CDBG) in the amount of \$500,000 has been obtained to fund this project. The remainder of the estimated projects costs, \$316,820, will be provided through local funds.

Attached is an Environmental Assessment containing detailed information supporting this action. Comments supporting or disagreeing with this proposed action received within 30 days of the date of this FNSI will be evaluated before we make a final decision to proceed. If you wish to comment or to challenge this FNSI, send your written comment(s) to:

Mr. Sam R. Gaddipati, Environmental Manager
State Revolving Fund Loan Program
Tennessee Department of Environment and Conservation
L & C Tower, 8th Floor
401 Church Street
Nashville, TN 37243

or contact him by telephone at (615) 532-0445 or by e-mail at sam.gaddipati@tn.gov

ENVIRONMENTAL ASSESSMENT
Ocoee UD (Polk and Bradley Counties), Tennessee
Loan No. DWA 2009-083
June 12, 2009

A. PROPOSED FACILITIES AND ACTIONS; FUNDING STATUS

The Ocoee Utility District (OUD) has completed the facilities plan entitled “Polk County Water Line Extensions” dated March 2009, and the facilities plan amendment entitled “Contract 1 – Polk County Water Line Extensions and Contract 2 – North Water Line Extension, Amendment 1” dated May 2009. The proposed loan consists of two contracts: Polk County Water Line Extensions and North Water Line Extension. The Polk County Water Line Extensions contract consists of the extension of 6-inch diameter water lines in the southeastern and eastern regions of the OUD’s distribution system and includes: 1) connecting to the existing 6-inch water line on Hwy 411 at Old Fort/Boanerges Church Road and extending southwest approximately 4,200 feet to the existing water line on Ladd Springs Road, 2) connecting to the existing 6-inch water line on Ladd Springs and extending south approximately 1.4 miles along Old Fort/Boanerges Church Road to the existing water line on Browder Road, 3) connecting to the existing 8-inch water line on Browder Road and extending south approximately 4,200 feet along Old Fort/Boanerges Church Road, 4) connecting to the existing 6-inch water line on Davis Lane and extending southeast approximately 2,100 feet along Killian Road to the proposed water line on Old Fort/Boanerges Church Road, 5) connecting to a 6-inch water line on Old Federal Road at Ed Kirksley Drive and extending east along Ed Kirksley Drive approximately 1,600 feet, 6) connecting to an existing 8-inch water line on Ball Play/Horns Creek Road at Ladd Springs Road and extending northwest along Ladd Springs approximately 1.1 miles, and 7) connecting to a 4-inch water line on Reynolds Road at Hildabrand Road and extending east approximately 2,600 feet. The North Water Line Extension contract consists of the extension of a 12-inch diameter water line in the northern region of the OUD’s distribution system and includes connecting to the existing 8-inch water line on Union Grove Road and extending north approximately 10,000 linear feet (LF) to Upper River Road then extending northwest approximately 19,000 LF to the intersection of Upper River Road and Bolen drive on the western edge of the OUD’s Service Area. The facilities Service Area and project location are indicated on Figure No. 1, 2, 3, and 4 of this Environmental Assessment.

FUNDING STATUS

The facilities described above comprise the scope of the American Recovery and Reinvestment Act of 2009 (ARRA), and Drinking Water State Revolving Fund (DWSRF) Loan No. DWA 2009-083 scheduled for funding in fiscal year 2009. The estimated project costs are summarized in the following tabulation:

<u>PROJECT CLASSIFICATIONS</u>	<u>COSTS (\$)</u>
Administrative & Legal	27,000
Planning Fees	25,000
Design Fees	149,800
Engineering Basic Fees	24,000
Other Engineering Fees	31,000
Construction	2,310,020
TOTAL	2,566,820
DWSRF Loan/ARRA Loan	1,050,000
ARRA Principal Forgiveness	700,000
Community Development Block Grant	500,000
Local Funds	316,820

The total estimated project cost is \$2,566,820. A DWSRF/ARRA Loan in the amount of \$1,050,000 and ARRA principal forgiveness amount of \$700,000 has been requested for this project. A Community Development Block Grant in the amount of \$500,000 has been obtained to fund this project. The remainder of the estimated projects costs, \$316,820, will be provided through local funds.

B. EXISTING ENVIRONMENT

The OUD's Service Area is located in Polk and Bradley Counties in the eastern part of Tennessee. Existing environmental features are described below:

SURFACE WATERS

The surface waters in the OUD's Service Area include Ball Play Creek, Chestuee Creek, Conasauga River, Hiwassee River, Mill Creek, Ocoee River, Old Fork Creek, and their tributaries. Ball Play Creek is impaired because of Escherichia coli (E. coli) resulting from pasture grazing and septic tanks. Mill Creek is impaired because of nitrate and E. coli resulting from pasture grazing. The Ocoee River is impaired because of pH and zinc resulting from mill tailings, mine tailings, contaminated sediments, impacts from abandoned mines, and upstream impoundment. This project will not affect the Ball Play Creek, Mill Creek or the Ocoee River. The OUD's raw water is supplied from Carpenter Spring and Wildwood Spring. Water obtained from these springs is generally of good quality.

GROUNDWATER

The underlying geologic formations in the OUD's Service Area encompass the Paleozoic-Ordovician, Paleozoic-Ordovician-Cambrian, and Precambrian Periods and consist of limestone,

shale, dolomite, siltstone, sandstone, clay stone, chert, conglomerate, quartzite, arkose, phyllite, greywacke, and schist. The area is underlain by the Valley and Ridge aquifer and the Blue Ridge aquifer. The OUD's raw water is also supplied from 3 wells. Water obtained from wells completed in crystalline rocks of the Precambrian period has a smaller dissolved-solids concentration, is softer than water obtained from wells completed in sandstone aquifers, and is suitable for most uses.

SOILS

Soil associations occurring in the OUD's Service Area include the Apison silt foam, the Cotaco silt foam, the Conasauga silt foam, the Clarksville cherty silt foam, the Fullerton cherty silt foam, the Hamblen silt foam, and the Sequia silty clay foam.

TOPOGRAPHY

The OUD's Service Area is located in the Valley and Ridge and Blue Ridge Physiographic Provinces and consists of moderate to steep slopes. The topography in the OUD's Service Area ranges from 700 feet to 4,000 feet above mean sea level.

OTHER ENVIRONMENTAL FEATURES

The scenic Ocoee River passes to the east of the OUD's Service Area. This project will not affect the scenic Ocoee River. No additional wild or scenic rivers or unique agricultural, scientific, cultural, ecological, or natural areas were identified in the Service Area.

C. EXISTING WATER FACILITIES

The OUD owns and operates the Carpenter Spring Water Treatment Plant (WTP) and the Wildwood Spring WTP. These two WTPs are the only two WTPs in the OUD's Service Area. The Carpenter Spring WTP is located north of Highway 64 in Bradley County and has the ability to produce 1.5 million gallons per day (MGD). Raw water for this WTP is provided by the spring and 3 wells.

The Wildwood Spring WTP is also located in Bradley County and has the ability to produce 0.8 MGD. Raw water for this WTP is provided by the spring. Both WTPs act as backup for each other. The total water production capacity of both treatment facilities is 2.3 MGD.

Drinking water is pumped to five storage facilities: Howard's Tank, New Hope Reservoir Tank, Chilcutt Tank, Bates Pike Tank, and Conasauga Tank with a combined volume of 3.6 million gallons. The oldest water storage tank is the Conasauga Tank, built in 1968. The Howard's Tank was replaced in 2007. The water distribution system was originally built in 1967 to serve approximately 500 customers. The current water distribution system, upgraded and replaced over the last 20 years, serves approximately 6,200 customers and consists of approximately 300 miles of polyvinylchloride, asbestos cement, and high-density polyethylene waterlines ranging in diameter from 2 inches to 12 inches. The OUD's annual water loss average is approximately 15 percent.

D. NEED FOR PROPOSED FACILITIES AND ACTIONS

The OUD water distribution system is in need of improvements to provide safe and reliable drinking water to its customers. In the area of the Polk County Line Extensions contract, customers are experiencing low pressures and dead-end water lines exist. The completion of the Polk County Line Extensions contract will alleviate low pressure problems, eliminate dead-end water lines, and provide citizens with a reliable source of safe drinking water. In the area of the North Water Line Extension contract, customers are experiencing low pressure in the system. Dead-end service lines also exist in the northern area of the OUD's Service Area. The completion of the North Water Line Extension contract will alleviate low pressure problems and eliminate dead-end water lines. The North Water Line Extension contract will also provide a supplementary water source to the OUD through a connection with the Hiwassee Utility Commission and reduce the demand on the OUD's Carpenter Spring WTP.

Existing and projected facility conditions are shown in the following chart:

EXISTING AND PROJECTED FACILITY CONDITIONS

<u>POPULATION</u>	<u>EXISTING (2009)</u>	<u>PROJECTED (2029)</u>
Ocoee UD Service Area	35,906	58,836
Percent Served	48.3%	79.8%
Total Service Area	35,906	58,836
Percent Served	48.3%	79.8%

<u>WATER NEEDS (gpd)</u>	<u>EXISTING (2009)</u>	<u>PROJECTED (2029)</u>
Residential	1,376,100	2,270,000
Commercial/Industrial	81,900	160,000
Loss	218,700	364,500
TOTAL	1,677,000	2,794,500

E. ALTERNATIVES ANALYSIS

Several alternatives were evaluated in the March 2009 Facilities Plan and May 2009 Facilities Plan Amendment. Discussions of the evaluation of these alternatives and the recommended plan are following:

NO-ACTION

The “No-Action” approach is not a viable alternative. If no action is taken, low pressures will continue to exist. Action must be taken to provide a safe, reliable, and adequate source of drinking water to the citizens in the OUD’s Service Area. Therefore, this alternative is rejected.

Polk County Water Line Extensions

Installation of 4-inch Diameter Water Lines in 2009 and Additional 4-inch Diameter Water Lines in 2019

This alternative consists of installing water lines in two construction phases. The first phase, proposed in 2009, consists of approximately 23,000 linear feet (LF) of 4-inch diameter water lines along Boanerges Church Road, Killian Road, Ed Kirksley Road, Hildabrand Road, and Ladd Springs Road and eliminates dead-end lines. The second phase, proposed in 2019, consists of additional 4-inch diameter water lines in the same area. A two-phase approach would add a second level of construction and maintenance costs. This alternative is not the most cost-effective and is rejected.

Installation of 8-inch Diameter Water Lines

This alternative consists of installing approximately 23,000 linear feet (LF) of 8-inch diameter water lines along Boanerges Church Road, Killian Road, Ed Kirksley Road, Hildabrand Road, and Ladd Springs Road and eliminates dead-end lines. Although the 8-inch diameter lines would be adequate for increased flows, flushing would be required to maintain the required chlorine residual standard. Flushing the 8-inch diameter water lines would result in additional costs. This alternative is not the most cost-effective and is rejected.

Installation of 6-inch Diameter Water Lines

This alternative consists of installing approximately 23,000 linear feet (LF) of 6-inch diameter water lines along Boanerges Church Road, Killian Road, Ed Kirksley Road, Hildabrand Road, and Ladd Springs Road. This alternative will provide an adequate and safe drinking water supply to customers during peak demand times and eliminate the potential for the formation of harmful disinfection products by connectivity (looping) and eliminating dead-end lines. This alternative is the most cost-effective and is selected.

North Water Line Extension

Installation of an 8-inch Diameter Water Line in 2009 and Additional 8-inch Diameter Water Line in 2019

This alternative consists of installing water lines in two construction phases. The first phase, proposed in 2009, consists of installing a new 8-inch diameter water line connecting to the existing 8-inch water line on Union Grove Road and extending north approximately 10,000 linear feet (LF) to Upper River Road then extending northwest approximately 19,000 LF to the intersection of Upper River Road and Bolen drive on the western edge of the OUD’s Service Area. The second phase, proposed in 2019, consists of installing a second 8-inch diameter water

line following the same alignment. A two-phase approach would add a second level of construction and maintenance costs. This alternative is not the most cost-effective and is rejected.

Installation of a 16-inch Diameter Water Line

This alternative consists of installing a new 16-inch diameter water line connecting to the existing 8-inch water line on Union Grove Road and extending north approximately 10,000 linear feet (LF) to Upper River Road then extending northwest approximately 19,000 LF to the intersection of Upper River Road and Bolen drive on the western edge of the OUD's Service Area. Although the 16-inch diameter lines would be adequate for increased flows, flushing would be required to maintain the required chlorine residual standard. Flushing the 16-inch diameter water line will result in additional costs. This alternative is not the most cost-effective and is rejected.

Installation of a 12-inch Diameter Water Line

This alternative consists of installing a new 12-inch diameter water line connecting to the existing 8-inch water line on Union Grove Road and extending north approximately 10,000 linear feet (LF) to Upper River Road then extending northwest approximately 19,000 LF to the intersection of Upper River Road and Bolen drive on the western edge of the OUD's Service Area. This alternative will provide an adequate and safe drinking water supply to customers during peak demand times, provide a supplementary water source to the OUD through a connection with the Hiwassee Utility Commission, and reduce the demand on the OUD's Carpenter Spring WTP. This alternative is the most cost-effective and is selected.

F. ENVIRONMENTAL CONSEQUENCES; MITIGATIVE MEASURES

The environmental benefits of this project will be improvement to public health by providing a reliable drinking water system.

During the construction phase, short-term environmental impacts due to noise, dust, mud, disruption of traffic, runoff of silt with rainfall, etc., are unavoidable. Minimization of these impacts will be required; however, many of these minimization measures will only be temporary. Using the following measures to prevent erosion will minimize impacts on the environment:

1. Specifications will include temporary and permanent measures to be used for controlling erosion and sediment.
2. Soil or landscaping maintenance procedures will be included in the specifications.
3. The contractor will develop an Erosion Control Plan. It should contain a construction schedule for each temporary and permanent measure controlling erosion and sediment. It should include the location, type, and purpose for each measure and the times when temporary measures will be removed or replaced.

These measures, along with requiring the contractor to return the construction site to as-good-as or better-than its original condition, will prevent any adverse impacts due to erosion.

G. PUBLIC PARTICIPATION; SOURCES CONSULTED

Public Meetings were held on February 24, 2009, 6:00 p.m. local time, and on June 11, 2009, 6:00 p.m. local time. The selected plan for distribution and user charges were described to the public, and their input was received. This agency is not aware of any unresolved public objections that may have been voiced before or after the public meeting regarding this project.

The annual median household income for the OUD is \$29,500. The current water user rate for the typical residential user (5,000 gallons per month) is \$28.54 per month. The rate will increase in two three-percent increments, the first one on September 15, 2009, to \$29.39 per month, and the second on September 15, 2010, to \$30.28 per month. The total incremental annual cost for this project is \$20.88, which is approximately 0.07 percent of the current annual household median income.

Sources consulted about this project for information or concurrences were:

1. Tennessee Department of Agriculture
2. Tennessee Department of Economic and Community Development (ECD)
3. Tennessee Department of Environment and Conservation (TDEC), Division of Air Pollution Control (DAPC)
4. Tennessee Department of Transportation (TDOT)
5. TDEC, Division of Groundwater Protection (DGWP)
6. Tennessee Historical Commission
7. TDEC, Division of Archaeology (DA)
8. TDEC, Division of Natural Areas (DNA)
9. TDEC, Division of Solid Waste Management (DSWM)
10. TDEC, Division of Water Pollution Control (DWPC)
11. TDEC, Division of Water Supply (DWS)
12. Tennessee Wildlife Resources Agency (TWRA)
13. United States Army Corps of Engineers (USACE)
14. United States Fish and Wildlife Service (USF&W)
15. Ocoee Utility District
16. Polk and Bradley Counties
17. Gresham, Smith and Partners, Nashville, TN

H. SPECIAL CONDITION

The State Revolving Fund loan agreement will have the following special condition:

The Tennessee Historical Commission requires a detailed archaeological survey on the portion of the area of potential effect (APE) that lies in the Calhoun Quad Map (125SW). The remainder of the APE does not warrant additional investigation. Copies of the detailed archaeological survey must be submitted to Mr. David Shell, Environmental Coordinator with the State Revolving Fund Loan Program (615-532-0480 or David.Shell@tn.gov), and to Ms. Jennifer Barnett,

Archaeologist with the Tennessee Historical Commission (615-741-1588, ext. 105 or Jennifer.Barnett@tn.gov) ,prior to the approval of plans and specifications.